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Clinician Perspectives on Management of Adolescents with Pelvic Inflammatory Disease Using Standardized Patient Scenarios

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Abstract

National survey data designed to delineate clinician perspectives on the indications to hospitalize adolescents for pelvic inflammatory disease indicate that clinicians endorse care consistent with the CDC Sexually Transmitted Diseases treatment guidelines, but that there is less agreement on the social factors that may impair an adolescent's ability to self-care in the outpatient setting.

Keywords

Pelvic Inflammatory Disease (PID); Guidelines; Adolescent Management

Pelvic inflammatory disease (PID) is a common reproductive health disorder affecting more than 800,000 women each year in the United States.¹ Due to biologic and behavioral factors; adolescents remain vulnerable to develop the disorder,^{2–5} which can result in an increased risk for known sequelae such as ectopic pregnancy, tubal infertility and chronic pelvic pain.^{6–9} The Centers for Disease Control and Prevention (CDC) no longer recommends that all adolescents be hospitalized for PID¹⁰ despite findings that indicate adolescents are often seen in emergency room settings,¹¹ receive substandard care,¹² have difficulty with adherence,¹³ are at risk for recurrent infection,¹⁴ and have significant adverse longitudinal outcomes such as chronic pelvic pain compared with adult women in national multi-center trials.¹⁵ Further, there is limited data on early and middle adolescents impacted by PID and the potential value of short term hospitalization on the longitudinal outcomes for young females presenting for PID care during a unique developmental stage. Fortunately, adolescent-serving clinicians have great flexibility in determining the disposition for inpatient or outpatient treatment based on their assessment of the patient's "ability to tolerate an outpatient regimen" per the CDC Sexually Transmitted Disease (STD) Treatment Guidelines.¹⁰ The objective of this study was to delineate clinician perspectives on the

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indications to hospitalize adolescents for practical application of the CDC guidelines for PID management.

Adolescent-serving clinicians were invited through professional listservs to participate in a web-based survey to provide opinions on the management of adolescents with PID. After piloting the study with local pediatricians and adolescent medicine experts, a letter of invitation was sent to members of the Society for Adolescent Health and Medicine and the North American Society for Pediatric and Adolescent Gynecology for their review. To be included in the survey, participants had to be clinicians who made the final disposition for care (physicians, physician assistants, and nurse practitioners). Interested clinicians could then click into the study website to review and accept the informed consent parameters and subsequently enter the main survey. While the electronic survey recorded each clinician (name and contact information), other survey data were not retained unless they completed the entire survey per the online informed consent process. All data were stored in a database on a secure institutional network with additional firewall protections. Name and address information was collected to provide the \$5 remuneration to clinicians for completing the survey. Submitted survey data was de-linked from clinician identifiers into a separate file to protect the confidentiality of participant responses. Inclusive of the piloting period, the survey was open for data collection from May 6, 2009 to March 15, 2010. The Johns Hopkins Medicine Institutional Review Board approved the study.

Clinician-participants were first asked to complete a series of utility elicitation questions designed to explore health related quality of life and the monetary and time-based tradeoffs based on the five health states associated with PID and then to subsequently answer questions about hospitalization versus outpatient treatment based on 14 scenarios involving a hypothetical 15 year old girl with PID using click/move features of the online visual analog scale (VAS).¹⁶ This analysis focuses on the responses to seventeen treatment scenarios. Prior to offering a scenario, the following prompt was offered to participants:

“Now we are going to ask your opinions on the treatment options for pelvic inflammatory disease (PID). Patients who are treated in the hospital usually stay for antibiotics by vein (through an IV) for 24–48 hours. After she goes home, she will take antibiotics by mouth at home for the remaining 2 weeks. Patients treated at home receive antibiotics by mouth for 14 days and are asked to return to the doctor’s office within 72 hours for re-evaluation. There are many reasons why a doctor may suggest treatment in the hospital instead of being treated at home. There are also many reasons why patients may want or need to be treated in the hospital or at home. Please indicate how strongly you feel [your patient] should be admitted in the following situations.”

The online survey prompts participants to respond to five categories of factors related to treatment options (1) Adherence to the CDC STD Treatment Guidelines (severe illness, pregnant, not improving as an outpatient), (2) Vulnerability (young age (<15 years), developmental delay), (3) Personal barriers (afraid to tell partner, unwilling to take prescribed medications), (4) Practical Barriers (lack of transportation, uninsured, homeless) and (5) Risk status (recent surgical procedure (e.g. abortion), previous PID, increased risk of pregnancy, increased risk of STIs, parent unaware of PID diagnosis). VAS scores ranged

from 0 to 10 with 10 indicating the strongest endorsement for hospitalization. Mean scores for each scenario were ranked and plotted. Linear regression analyses were used to evaluate the role of clinician gender, parenting status, and practice parameters on the observed findings based on prior studies demonstrating how personal characteristics and practice setting¹² influence clinician decisions regarding adolescent reproductive health care and the disconnect between adolescent and parent perspectives on PID management.¹⁶

Two hundred clinicians opened the web link to review the survey information and 102 (51%) successfully submitted completed the online survey. Clinicians had a mean age of 44.8 years SD (10 years). Most were white (81.4%) non-Hispanic (96%), female (83.3%), physicians (84%) married (76.5%), parents (70.6%), had pediatric professional training (82.4%), and devoted most of their clinical practice to the care of adolescents (70.0%). VAS disposition scores varied significantly with the highest scores devoted to those scenarios that most closely correlated with the CDC recommendations for PID management (Fig 1). Male clinicians had higher VAS scores than female clinicians for post-abortion PID diagnoses in linear regression models ($\beta = 0.92$, 95% CI: 0.14; 1.17, $p = 0.02$), surgical emergencies ($\beta = 0.35$, 95% CI: 0.17; 0.63, $p = 0.02$), and pregnancy ($\beta = 0.63$, 95% CI: 0.04; 1.23, $p = 0.04$). The pregnancy model controls for parenting status. Compared to clinician-parents, clinicians without children had higher VAS scores for severe illness ($\beta = 0.32$, 95% CI: 0.17; 0.63, $p = 0.04$).

This study indicates that clinicians endorse care that is consistent with the CDC recommendations for hospitalization; however, they appear to struggle with the social factors that may impair an adolescent's ability to tolerate an outpatient regimen. Male clinicians and clinicians without children were more likely to endorse hospitalization for adolescents who were post-abortion/surgery, pregnant required surgery, or had severe illness.

The findings from this research must be considered in light of several limitations. The generalizability of our findings is limited by the low survey completion rate. This may be the result of the study burden. Feedback from survey completers suggests that the survey required an unexpected level of mental effort complete the utility elicitation process, which involves a complicated time and monetary trade off series, prior to the scenario questions. The use of clinical experts may also result in an overestimation for hospitalization disposition outcomes; however, a combination of available evidence and clinical expertise drives the development of national guidelines. While the findings support the notion that clinicians endorse the CDC Guidelines for PID in Adolescents, causality cannot be assumed for the observed findings (i.e. that the CDC guidelines may serve as the primary source of clinician knowledge and/or decision making) since clinician perceptions of the influence of the CDC guidelines on their decision was not directly assessed. Finally, there are no measures of actual clinician behavior and/or consideration of multiple clinical factors using these standardized patient scenarios.

This study demonstrates that adolescent PID clinician management perspectives mirror guidance from the CDC, yet clinical decision-making can be influenced by the clinical scenario, clinician gender, and clinician parenting status. While the scores never reached

zero for any scenario; the declining values observed for factors that increase risk or make it difficult to successfully tolerate an outpatient regimen suggest a lack of agreement about managing the disposition for vulnerable adolescent girls. While our results must be used with caution because of the difficulty validating estimates based on what people think they will do; the observations in this study are consistent with the data demonstrating inconsistent care delivery for adolescents with PID across the nation.¹² Additional research exploring the influence of clinician-assessed psychosocial factors on adolescent PID outcomes, clinical scenarios requiring short-term hospitalization, and the role clinical and behavioral interventions to support adolescents' ability to self-manage their care in the outpatient setting is warranted. This evidence may enhance the clinical guidance for management of PID in adolescents within the CDC STD treatment guidelines and aid in decision-making by clinicians caring for adolescents with PID in a variety of settings.

Acknowledgments

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Short Summary

A national survey demonstrates that while adolescent-serving clinicians endorse the indications for PID hospitalization as consistent with Centers for Disease Control and Prevention (CDC) guidelines; final disposition is variable and influenced by clinician characteristics and patient scenarios.

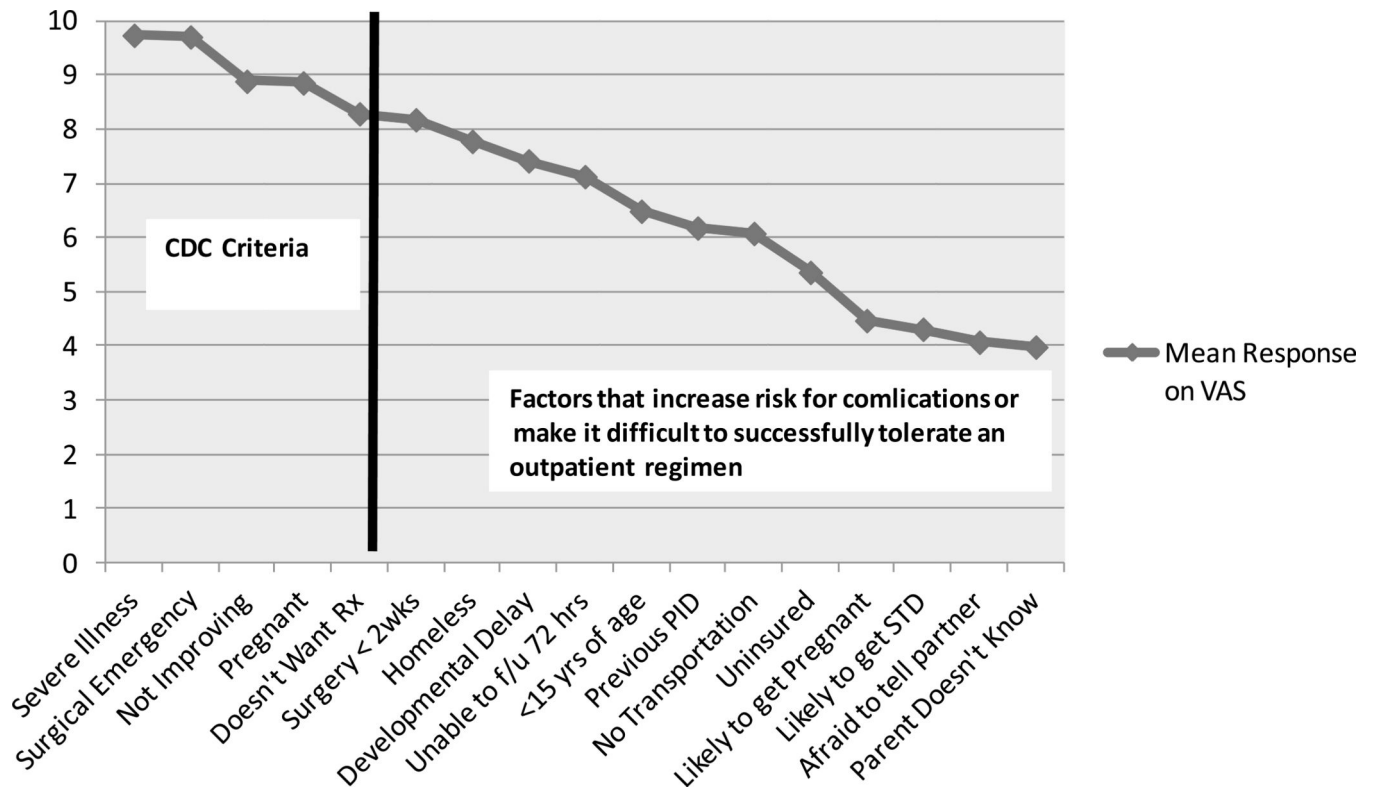


Figure 1.
Provider responses on the disposition-related VAS